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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,775	04/09/2004	Dejan Jovovic	071308.0537	1452

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EXAMINER

COMPTON, ERIC B

ART UNIT PAPER NUMBER

3726

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary	Application No. 10/821,775	Applicant(s) JOVOVIC ET AL.	
	Examiner Eric B. Compton	Art Unit 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 10-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-9 in the reply filed on November 19, 2005, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 10-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Regarding claim 1, the phrase "in particular" (in lines 2 and 3) renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claims 2-9 are dependant of claim 1 and therefore also indefinite.

Claim Rejections - 35 USC § 102

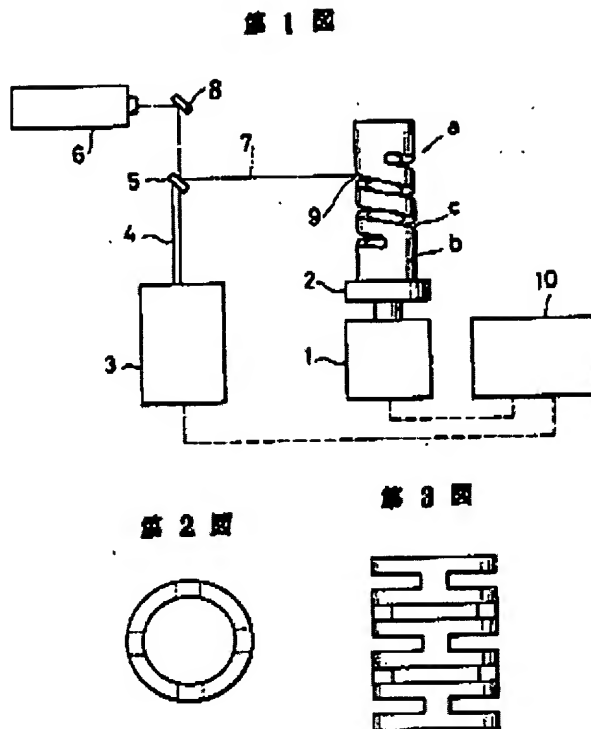
6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, 4-5, and 8, are rejected under 35 U.S.C. 102(b) as being anticipated by JP 57-149085 to Oki.

Oki discloses a method for producing a tubular spring in the form of a hollow body, comprising the step of providing a thin-walled seamless drawn steel tube (tubular blank), with a plurality of regularly disposed oblong cutouts, by means of beam/cutting, e.g., laser beam cutting. "To form a spring of high accuracy at a low cost by irradiating laser light to the circumferential wall of a tubular blank material consisting of a spring material and displacing the blank material and the laser light focused part relatively thereby removing the circumferential wall part corresponding to a groove." JPO Abstract. See *also* U.S. Pat. 4,826,143, Col. 3, lines 3-6 (disclosing forming spring by laser beam). The spring of Oki can be used for any particular purpose.



Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oki in view of SU 1031652 to Slysh et al.

Oki discloses the invention cited above. However, the reference does not disclose that a filler is inserted in the hollow body during the beam/jet cutting. It is noted

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the Applicant's disclosure of this feature is brief in the Specification only notes "by using a suitable filler inside the hollow cylinder during beam/jet cutting, a defined shaping of the beam/jet outlet edge is achieved and damage to the opposite side is prevented." [0017]. Presumably this is a mandrel of core member.

Slysch discloses a method for cutting thin-wall tubular stock, which incorporates a spring-loaded supporting mandrel to prevent impact distortions. See Derwent Abstract.

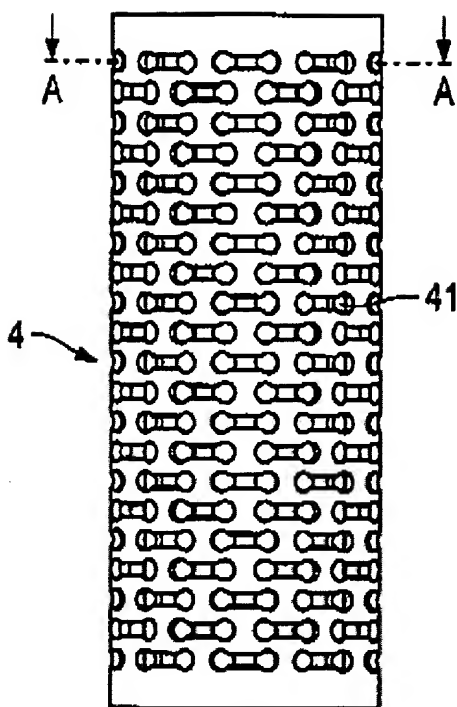
Regarding claim 3, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have inserted a filler into the hollow body of Oki during beam/jet cutting, in light of the teachings of Slysch, in order prevent distortion due to cutting.

10. Claims 6-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oki in view of WO 00/08353 to Frank et al.

Oki discloses the invention cited above. However, the reference does not disclose particulars claimed.

Frank discloses a method for producing a tubular spring in the form of a hollow body for preloading a piezoelectric actuator element of an actuator unit of a fuel injector, comprising the step of providing a tube (see page 4, line 11, "Hohlkorper" means "hollow body" in German), with a plurality of regularly disposed oblong cutouts, see Figure 2A, below.

FIG 2A



The spacing of the cutouts is believed to be identical to Applicants' invention. See Frank, Page 5 (diameters 0.8 to 1.6 mm; spacing 1.5 – 3.5 mm). Likewise, the cutouts have a dumbbell shape.

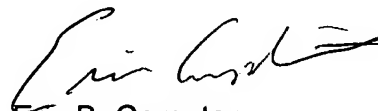
Regarding claims 6-7 and 9, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the recessed of Oki in having the claimed shape and design, in light of the teachings of Frank, in order to use it in a piezoelectric actuator. See also U.S. Pat. 6,446,606, Col. 3, lines 47-48 (discussing cutting slit in piezoelectric actuator by laser beam).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Compton whose telephone number is (571) 272-4527. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Jimenez can be reached on (571) 272-4530. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Eric B. Compton
Primary Examiner
Art Unit 3726

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